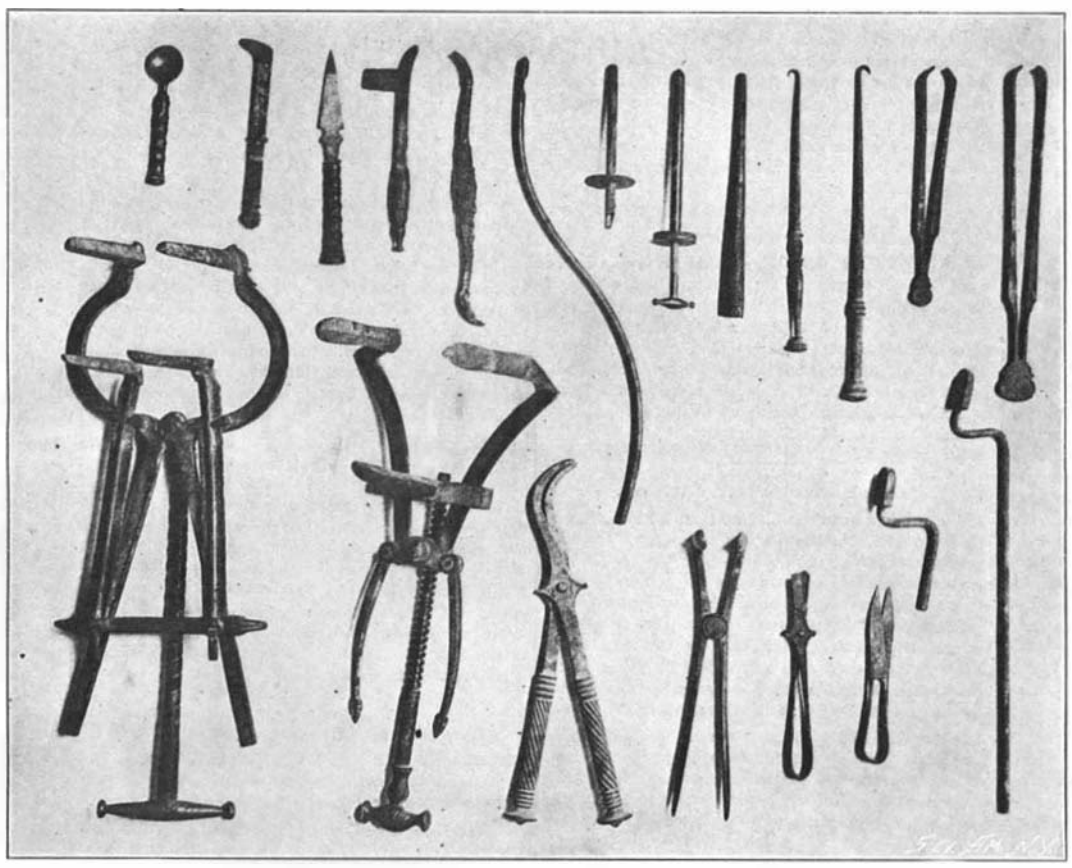
RE-INVENTION IN THE WORLD OF SURGERY.

BY R. E. THOMAS.

"Died of internal trouble" was the verdict which, prior to the last half century, was the comprehensive term used to record the unsuccessful efforts of treatment of women's diseases. Up to that time gynecology, which has since revolutionized the surgical world, was practically unknown. The few rare cases in which an operation was performed were attended with such an alarming element of danger prior to that time, that even the foremost surgeons hesitated to resort to this last desperate measure. That gynecology was a lost art was an important fact unguessed at since the burning of the great library of Alexandria destroyed an incalculable amount of valuable matter upon this subject as well as of others of equally important bearing in the scientific world. There was, therefore, no scantiest record that such a science had not only flourished, but been brought to its present state of perfection more than two thousand years ago.

Yet such is the case, such the almost incomprehensible truth borne in upon the world of science when the excavations of Pompeii revealed the astounding collection of surgical instruments, mainly for use in gynecology, unearthed in the house of the surgeon adjoining the Temple of the Vestal Virgins.

These instruments, shown in the accompanying picture, now occupy one of the most interesting cases in the museum of Naples, where, for greater safety, the most valuable of the excavation finds are kept by the Italian government. What is far more incomprehensible than the mere fact that these instruments, after having been buried since the eruption of Vesuvius, 79 A. D., have revealed that gynecology was a science flourishing in its perfection long before that date, is that in every instance the instruments are almost in their minutest particulars, exact duplicates of those in use by the most approved modern science of to-day. Had there been a record upon which surgeons and physicians could have built up this practical treatise upon the diseases of women, the wonder would be less. As it is, with absolutely nothing to hint that gynecology was a lost art, or that it had existed even, it seems nothing short of marvelous that modern minds should in the evolution of this century's instruments have traveled along identical lines pursued by those marvelously skilled Pompeiian physicians to the Vestal Virgins ministering in the Temple, on the idyllic remnants of which the sun shines to-day from bluest of Italian skies, and the waters of the Bay of Naples lap their cerulean waves almost to the gateways of that charmed place about which must ever linger so much of romance and poetry.



RE-INVENTION IN THE WORLD OF SURGERY—A GROUP OF INSTRUMENTS DISCOVERED IN POMPEII.

A difference between the surgical instruments of to-day and those of the ages ago is that while the latter were of the finest wrought iron, those of the former are of polished nickelplate. But the workmanship is as fine as anything to be produced in this line in the twentiethcentury. The instruments are hand wrought, the screws as threadlike and capable of as delicate manipulation as anything to be found in to-day's achievements.

It is not more than half a century since gynecology may be said to have had a place in modern surgical science. Dr. Marion Sims in the lead with his duckbill speculum has had a mighty rush of followers. Dr. Sims' treatment of vesico-vaginal fistula was a revelation at the time. To him the world is indebted for the suggestion and perfection of measures by which this almost untreatable condition has been rendered one of the most certain of relief within the field of surgery. From profound ignorance his duckbill speculum has brought gynecology to the front ranks of surgical skill and attainment.

In every particular, however, Dr. Sims had been anticipated, as in May, 1829, Dr. H. S. Levert in The American Journal of Science expounded the results of his experiments in the use of silver wire. This was followed on November 21, 1834, in The London Lancet, by Mr. M. Gosset giving a description of his method of using silver wire, and later in 1846 was published the method of Metgler.

The first record which surgical science has in this country of the use of a speculum was of an ordinary teaspoon used by a Southern country practician to enable him to see a rent in the bladder of a woman patient. By this primitive means he was subsequently enabled to administer successful scientific treatment.

Following Dr. Sims' trip abroad, when the value of his invention was recognized by the leading surgical authorities of England and France, he returned to this country to make a large fortune by this means. The speculum was then taken up and developed, and additional discoveries practically put to use by other eminent surgeons and physicians, each in turn giving to the instrument his own name. Among the best known of these are those of Meier, Cusco and Ferguson.

Following upon these inventions, together with others of similar nature, came those finds in the Pompeiian excavations of the house of the surgeon which told to the world a stupendous truth, that the instruments in use to-day, for the alleviation and cure of internal troubles, are identical with those used by skilled practitioners when the world was younger by two thousand years.

Bat Guano Caves in Southern New Mexico.

Southern New Mexico is a land of natural curiosities, and one at least of these has proved to have a high commercial value. A resident of that district had the good fortune a few years ago to accidentally stumble upon several bat caves, one of which is stated to be some six miles in length, and as he has shipped in the last two years 3,392,240 pounds of phosphate or guano from these caves, for which he has received about $48 per ton, it can be understood that the present and prospective value of these caves is considerable. It can be readily understood that bat guano possesses great value as a fertilizer, and the value of the caves is enhanced by the fact that beneath the guano is a considerable deposit of phosphatic rock (the remains of defunct bats), which, when ground up and treated with phosphoric acid, is highly prized as a fertilizer.

Since the discovery of these ancestral homes of the bats, in which they have made their resting place for unnumbered centuries, the search for more such caves has continued intermittently, and it is probable that many more valuable finds of this nature will be made; for the section of the country in which they lie is literally infested with this obnoxious, but very lucrative, little creature. The caves which are frequented by bats are of lava formation, and carry evidence of having been subject to violent volcanic action. A remarkable bat-trait is mentioned by our correspondent, which has the effect of rendering the caves of permanent value. It seems that after the entire front of the first of these caves to be opened had been torn down to within a foot or so of the narrow openings through which for centuries the bats have come and gone, the little creatures continued, and still continue, to follow the ways of their ancestors. Flying upward past the large openings, they would squeeze in and out of the caves as of old. Since the first cleaning out of one cave seven tons of guano have been removed, all of which had been deposited subsequently to the first removal. It is estimated that from the deposits which have already been discovered, there has been taken an annual crop of about 1,500 tons of guano.

Remodeling the Victorian Patent Practice.

There is a movement afoot in the colony of Victoria, Australia, which has for its object the carrying out of certain drastic reforms in the patent laws, and the reorganization of the staff and office of the department of patents in the interests of inventors. This movement has taken the form of a petition addressed to the Victorian legislative assembly, which is being extensively signed by leading men of all trades and professions in that colony. The petition has been initiated by a leading patent agent in Melbourne, and it is receiving considerable support from those members of the profession who consider that a more liberal treatment of inventors will ultimately lead to more extensive business in patents.

In reading the petition it is evident that the mainspring of the movement is to be found in the more liberal and advanced methods which are in vogue in our own patent system, and in a less degree in that of Great Britain. The most important point asked for in the petition is that the examination into novelty may be retained. It is claimed that this examination, which was prescribed by the patent act of 1890, is now conducted by the department with sufficient completeness to be of great public benefit, and that it is, in a large degree, a deterrent of fraudulent and improper applications. It is claimed that the abolition of examination into novelty will throw the burden of search upon the inventor, and that if the examination is struck out, the patentee will be under increased expense of from $75 to $150 for an ordinary search, while it would be no uncommon thing for a heavy examination to cost $250. The petition quotes the report of the Commissioner of Patents of the United States as affirming that it is because of novelty examinations that patents are so salable in this country. The petitioners are of the opinion that "to avoid grievous restraints of trade, encouragement of impostures upon the public, the undue raising of prices of commodities, and the unnecessary multiplication of ruinous lawsuits, the granting of illegal monopolies upon articles of commerce without any investigation as to the novelty of such articles should not be permitted."

The petitioners also pray that the Patent Office examiners' reports, as well as other documents in connection with patent monopolies granted, should be open to public inspection in like manner as in the United States of America. It is also requested that steps be taken to remedy the long-continued and grievous delay and shortcomings in respect to the issue of publications from the Patent Office respecting new inventions and monopolies; and the reasonableness of this petition will be understood when it is learned that the publication known as "Patents and Patentees," issued by the Victorian Patent Office, is nine years in arrears, and that after being printed it can only be obtained at a cost which is prohibitive to the majority of inventors interested in securing it. It is certain that in the judgment of American inventors, the authors of this petition are making out a very strong case for reform.

The Current Supplement.

The current SUPPLEMENT, No. 1294, has many interesting addresses and lectures. "Chemical and Technical Education in the United States," by Prof. C. F. Chandler. This is a most important paper, and deals with the subject in a masterly manner. "The Age of the Earth," by Prof. W. J. Sollas, is an address before the British Association. "Australia: The Wonderful Island Continent" is a thoroughly illustrated article by Sidney Dickinson, F.R.G.S. The Opening Astronomical Address, by Dr. A. A. Common before the British Association, is concluded in this issue. "American Sun Myths" is an address by Dr. Franz Boas.

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(Illustrated articles are marked with an asterisk.)